

**UNITED STATES DISTRICT COURT  
EASTERN DISTRICT OF MICHIGAN  
SOUTHERN DIVISION**

*In re* Flint Water Cases.

Judith E. Levy  
United States District Judge

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This Order Relates To:

*Carthan, et al. v. Snyder et al.*  
Case No. 16-10444

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**OPINION AND ORDER DENYING DEFENDANTS VEOLIA  
NORTH AMERICA, LLC, VEOLIA NORTH AMERICA, INC., AND  
VEOLIA WATER NORTH AMERICA OPERATING SERVICES,  
LLC’S MOTION TO EXCLUDE THE TESTIMONY AND REPORT  
OF DR. CLIFFORD P. WEISEL [2455]**

This opinion is one more in a series of opinions addressing the admissibility of the testimony and reports of nine experts retained by Plaintiffs<sup>1</sup> in anticipation of the issues class trial, set to begin on

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<sup>1</sup> See ECF No. 2454 (VNA’s motion to exclude opinions and testimony of Dr. Larry Russell); ECF No. 2455 (VNA’s motion to exclude opinions and testimony of Dr. Clifford P. Weisel); ECF No. 2456 (VNA’s motion to exclude testimony and reports of Robert A. Michaels); ECF No. 2458 (VNA’s motion to exclude opinions and testimony of Dr. David Keiser); ECF No. 2459 (VNA’s motion to exclude opinions and testimony of Dr. Daryn Reicherter); ECF No. 2460 (VNA’s motion to exclude opinions and testimony of Dr. Paolo Gardoni); ECF No. 2461 (VNA’s motion to exclude opinions and testimony of Dr. Howard Hu); ECF No. 2483 VNA’s motion to exclude opinions and testimony of Dr. Panagiotis (Panos) G. Georgopoulos); and ECF No. 2462 (VNA’s

February 13, 2024. (ECF No. 2435.) Defendants argue that these experts cannot meet the standards set by Federal Rule of Evidence 702 and *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).

Currently before the Court is the motion by Veolia North America, LLC, Veolia North America, Inc., and Veolia Water North America Operating Services, LLC (collectively “VNA”) to exclude portions of the testimony and supplemental report of Dr. Clifford P. Weisel (ECF No. 2455.) On September 12 and 13, 2023, a hearing was held and oral argument heard. For the reasons set forth below, VNA’s motion to exclude is denied.

## **I. Background**

Dr. Clifford P. Weisel is a retired professor of human exposure science at Rutgers, the State University of New Jersey. (See ECF No. 2455-3, PageID.77856–77861.) He is a past Director of the Exposure Science Graduate Program in the School of Public Health. His educational background includes a Master’s degree in analytical chemistry (1978) and a PhD in chemical oceanography (1981). He has

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motion to exclude testimony of Dr. Simons) (in ECF Nos. 2606 and 2617 the Court inadvertently failed to include the motion related to Dr. Simons’ testimony in this list).

written over 135 peer-reviewed journal article publications and he co-authored a textbook on exposure science. (*Id.*, and see ECF No. 2455-3, PageID.77887–77913.)

Plaintiffs retained Dr. Weisel to opine on whether the corrosive water conditions allegedly caused in part by VNA could cause harm to Flint residents, which is certified issue 3. (*Id.* at PageID.77854.) Dr. Weisel wrote an expert report in October 2022 (ECF No. 2455-3) and a rebuttal report in March 2023. (ECF No. 2455-4.) Dr. Weisel was deposed twice: first in 2020 and again in 2022.

On May 19, 2023, VNA filed this motion to exclude Dr. Weisel's opinions on three bases:

- (1) Dr. Weisel is unqualified;
- (2) Dr. Weisel's opinions are unreliable; and
- (3) the probative value of Dr. Weisel's opinions is substantially outweighed by the dangers of unfair prejudice, confusion, and waste of time.

(ECF No. 2455, PageID.77824.)

## **II. Legal Standard**

Federal Rule of Evidence 702 governs the admissibility of expert testimony and requires that: (1) the witness must be qualified, (2) the testimony must be relevant, and (3) the testimony must be reliable. Fed.

R. Evid. 702; *In re Scrap Metal Antitrust Litig.*, 527 F.3d 517, 528–29 (6th Cir. 2008). As the Supreme Court set forth in *Daubert*, Rule 702 imposes a “gatekeeping” obligation on the courts to ensure that scientific testimony “is not only relevant, but reliable.” *Daubert*, 509 U.S. at 589; *See also Kumho Tire Co., Ltd. v. Carmichael*, 526 U.S. 137, 147 (1999).

In *Daubert*, the Supreme Court provided a non-exclusive list of factors courts may consider when evaluating reliability: (1) whether the theory or technique at the basis of the opinion is testable or has been tested, (2) whether it has been published and subjected to peer review, (3) what the known error rates are, and (4) whether the theory or technique is generally accepted. *Daubert*, 509 U.S. at 593; *see also In re Scrap Metal*, 527 F.3d at 529 (listing same factors). Not every factor needs to be present in every instance, and courts may adapt them as appropriate for the facts of an individual case. *Kumho* 526 U.S. at 150.

“Rejection of expert testimony is the exception, rather than the rule.” *United States v. LaVictor*, 848 F.3d 428, 442 (6th Cir. 2017) (quoting *In re Scrap Metal*, 527 F.3d at 529–30)). But the burden is on Plaintiffs to show by a “preponderance of proof” that the proffered expert meets the standards of Rule 702 as interpreted by *Daubert*. *Pride v. BIC*

*Corp.*, 218 F.3d 566, 578 (6th Cir. 2000) (quoting *Daubert*, 509 U.S. at 592).

### **III. Analysis**

#### **A. Dr. Weisel's Qualifications as an Expert**

VNA first challenges Dr. Weisel's qualifications. (ECF No. 2455, PageID.77833–77837.) It contends that Dr. Weisel's area of expertise, exposure science, does not qualify him to opine on the City of Flint's failure to use appropriate corrosion-control treatment, which caused a disruption to the surface of pipes and plumbing fittings and fixtures and caused a release of lead into the tap water. VNA argues that Dr. Weisel does not identify any training or research that would qualify him as an expert on corrosion, pipe scale, or water treatment. VNA argues that Dr. Weisel is not qualified to analyze how certain homes and buildings in Flint, based on when they were built, would be more likely than not to have higher levels of lead in the water during the Flint Water Crisis than others built later.

VNA characterizes Dr. Weisel's opinions as based on a "course of self-study" which is inadequate under *Daubert*. (*Id.* at PageID.77835 (citing *Taylor v. Watters*, 655 F. Supp. 801, 805 (E.D. Mich. 1987)).) VNA

also argues that Dr. Weisel’s “general background in chemistry” is inadequate to support “these highly technical issues.” (*Id.* at PageID.77836.)

VNA fails to demonstrate that Dr. Weisel is unqualified. Dr. Weisel’s education, research, and over 40 years of experience in applying his educational and research background to the exposure science field make him qualified to opine on exposure science in this case. Dr. Weisel is qualified to offer his opinion on how people in Flint came into contact with lead through the environment (air, water, soil) and an assessment of the relative amounts of their probable exposure.

In forming his corrosion control opinions, Dr. Weisel cites to other experts’ opinions and analyses, as well as other reliably collected data. *See* Fed. R. Civ. P. 702. Because many of VNA’s arguments and Plaintiffs’ responses overlap significantly with VNA’s next argument related to the reliability of Dr. Weisel’s opinions, they will be addressed in the next section of this Opinion.

### **B. Reliability of Dr. Weisel’s Opinions**

VNA argues that Dr. Weisel’s opinions that class members ingested increased concentrations of lead during the water crisis is unreliable

because he bases his opinion on the following underlying premises: (1) homes and buildings built before 1986 were more likely to have lead in their service lines that leached into the plumbing than homes built after 1986; and (2) buildings in Flint with lead in their service lines or plumbing would be more likely to have elevated water lead levels from May 2014 to January 2016. (ECF No. 2455, PageID.77838.)

**1. “All” structures in Flint built before 1986 contained lead service lines or plumbing components**

VNA first challenges Dr. Weisel’s opinion that homes built before 1986 were more likely to have lead service lines or plumbing components than homes built after 1986. The Safe Drinking Water Act was amended in 1986 to prohibit lead solder, fittings, or flux<sup>2</sup> in public water systems.

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<sup>2</sup> VNA defines “solder” as a “fusible metal alloy used to join together metal work pieces.” (ECF No. 2455, PageID.77838.) The EPA’s website explains that “solder” is: “A metallic compound used to seal the joints between pipes. Until recently, most solder contained 50 percent lead. The use of lead solder containing more than 0.2% lead is now prohibited for pipes carrying potable water.” (<https://perma.cc/H2WF-PPBJ>.)

Flux is a chemical substance used in the soldering or metal joining process. Merriam-Webster defines flux, as “a substance used to promote fusion (as of metals or minerals).” (<https://perma.cc/VLA3-JPDK>.)

The Safe Water Drinking Act uses the terms “solder” and “flux” interchangeably in that the “lead free” requirement of no more than 0.2% lead applies to both solder and flux content. *See* 42 U.S.C. § 300g-6.

The Congressional Act is one source that Dr. Weisel relies on for this opinion.

VNA argues that this legislation does not mean that *all* structures built before 1986 contained lead in their solder, fittings, or flux. In other words, although lead was not prohibited before 1986, that “does not mean that it was used in every house.” (ECF No. 2455, PageID.77839.) For example, VNA cites to class representative Rhonda Kelso’s home, which was built before 1986. Her home was replumbed in about the year 2000. Assuming that the replumbing followed the Safe Drinking Water Act’s prohibition, it is an example of a pre-1986 house that did not utilize lead solder, fittings, or flux. (*Id.* at PageID.77838, fn.3.) VNA also cites its own expert, Dr. Brett Finley’s, opinion that homes with copper rather than lead service lines in August 2015 had “non-detectible water lead levels,” regardless of when they were built. (*Id.* at PageID.77840.) And VNA argues that Dr. Weisel fails to cite empirical evidence to support his assumption that lead was in the piping of “all” structures built before 1986. It argues that Dr. Weisel did not conduct any testing or inspect any pipes in the distribution system or in homes in Flint. Thus, VNA argues,



his opinion is “improper extrapolation” with a “lack of testing,” which is not permissible under *Daubert*. (*Id.* at PageID.77839–77840.)

Plaintiffs counter that Dr. Weisel never opined that “all” structures in Flint built before 1986 would have had lead in the plumbing. (*See, e.g.*, ECF No. 2455-3, PageID.77873.) Rather, he opines that homes constructed before 1986 were *more likely than not* to contain lead in plumbing which, in turn, that would serve as a source for increased lead exposure to class members. The Court agrees with Plaintiffs’ characterization of Dr. Weisel’s opinion.

Additionally, Dr. Weisel did not base his pre- and post- 1986 opinions solely on the date of the Congressional Act modification alone. Rather, he supported his opinions by relying on Pierre Goovaerts’ publication in the peer-reviewed journal *Science of the Total Environment* entitled “How Geostatistics Can Help You Find Lead and Galvanized Water Service Lines: The Case of Flint, MI.” *See* P. Goovaerts, *Science of the Total Environment*, 599–600 (2017). Goovaerts used tax parcel and secondary data such as composition of service lines, years structures were built, census tract data, and poverty level data in his publication. Several other experts have relied on Goovaerts’ work and it has been

found to be reliable. Dr. Weisel also relied on Dr. Russell's declaration, which the Court has already ruled is admissible. And he relied on the following peer-reviewed publication: Siddartha Roy et al., *Efficacy of corrosion control and pipe replacement in reducing citywide lead exposure during the Flint, MI water system recovery*, Royal Society of Chemistry 6, 3024–3031 (2020a). Dr. Weisel has supported his opinion using reliable methodology.

Moreover, with regard to VNA's argument that class representative Rhonda Kelso's pre-1986 house is an example of one that does not contain lead in the plumbing (since it was replumbed in 2000), Dr. Weisel points to the August 2015 Virginia Tech sampling of her home that detected 66.2 ppb of lead in the tap water. (See Weisel Rebuttal Decl, ECF No. 1522-3, PageID.58875.) Ultimately, the jury will weigh the credibility of both Dr. Weisel and Dr. Finley's opinions. The Court denies VNA's request to exclude Dr. Weisel's opinions about the likelihood of pre- and post- 1986 home plumbing systems containing lead.

**2. All structures with lead pipes would have had elevated lead levels in their water during the Flint Water Crisis**

VNA next challenges Dr. Weisel's opinion that structures in Flint that contained lead pipes would be more likely than not to have elevated water lead levels during the relevant time period. VNA's argument is that Dr. Weisel's opinion is untested and unsupported, and should therefore be excluded.

VNA is incorrect. Dr. Weisel supports his opinion by citing to several scientific sources:

- Dingle, A. *The Flint Water Crisis: What's Really Going On?* Chemistry Matters Online, American Chemical Society (2016).
- Torrice, M., *How Lead Ended Up In Flint's Tap Water*, Chemical and Engineering News, American Chemistry Society. 94: 26–29 (2016).
- Schock, M.R. and F.G. Lemieux, *Challenges in Addressing Variability of Lead in Domestic Plumbing*, Water Science & Technology: Water Supply 10(5) 793–95 (2010).

(ECF No. 2455-3, PageID.77915–77918.) Accordingly, Dr. Weisel's report is not lacking in support or reliability.

Additionally, Dr. Weisel's opinion on this issue is not as far-reaching and inflexible as VNA characterizes it (i.e., that all structures with lead pipes would certainly have higher water lead levels). Both Dr. Weisel's expert report and rebuttal report reiterate the variability of water lead levels in a home over time and the factors that could affect

water lead level variability, such as “how and when a water sample is collected.” (ECF No. 2455-3, PageID.77874.) VNA’s request that the Court exclude this opinion is denied.

### **C. Unfair Prejudice**

Last, VNA contends that because Dr. Weisel “does not opine that Flint water was capable of causing any of the thirteen specific harms claimed by Plaintiffs,” his testimony is more prejudicial than probative. (ECF No. 2455, PageID.77845.) VNA argues that because Dr. Weisel’s opinion is only that Flint residents’ exposure was “elevated” during the water crisis, but lacks a specific quantity of lead exposure, he should be barred from offering any opinions that Flint residents were exposed to a harmful lead level because it could lead to jury confusion and unfair prejudice. (ECF No. 2455, PageID.77845.) And, VNA argues, if the Court permits Dr. Weisel to testify about these opinions, “VNA also would have to devote time—both during cross-examination of Dr. Weisel and during testimony of VNA’s experts—to challenging the reliability of Dr. Weisel’s analysis and his qualifications for performing it.” (ECF No. 2455, PageID.77846.)

The Court rejects these arguments. As discussed at the September 13, 2023 hearing, Dr. Weisel's testimony is a "building block" for Plaintiffs' causation theory. Dr. Weisel, as Plaintiffs explained, is Plaintiffs' 'how/where/when exposure likely occurred' expert. He is not an expert in Plaintiffs' potential dosages of exposure or injuries. Dr. Weisel's opinions, as they are, are acceptable and admissible.

Further, the Court rejects VNA's arguments that Dr. Weisel must be able to provide evidence that exposure to Plaintiffs was at a harmful level. The Court has addressed the "no threshold" of lead exposure issue on multiple occasions and reiterates it here. *See In re Flint Water Cases (Bellwether I)*, No. 17-10164, 2021 WL 5631706, at \*3 (E.D. Mich. Dec. 1, 2021) (Opinion and Order Granting in Part and Denying in Part [VNA's] Motion to Exclude the Testimony and Report of Dr. Joseph Graziano [338]) ("there is no general rule prohibiting an expert from opining that a toxin can cause harms at any level of exposure"); *In re Flint Water Cases (Bellwether I)*, No. 17-10164, 2021 WL 5847102, at \*7 (E.D. Mich., Dec. 9, 2021) (Opinion and Order Granting in Part and Denying in Part Defendants [VNA's] Motion to Exclude the Testimony and Report of Dr.

William Bithoney [335]) (“Dr. Bithoney may...testify that there is no known toxicity threshold for lead.”).

Finally, the Court does not have any reason to think that VNA’s cross-examination of Dr. Weisel would be anything other than what ordinarily occurs in litigation. Accordingly, VNA’s argument is rejected.

#### **IV. Conclusion**

For the reasons set forth above, VNA’s motion to exclude Dr. Weisel’s opinions and testimony is denied.

IT IS SO ORDERED.

Dated: September 20, 2023  
Ann Arbor, Michigan

s/Judith E. Levy  
JUDITH E. LEVY  
United States District Judge

#### **CERTIFICATE OF SERVICE**

The undersigned certifies that the foregoing document was served upon counsel of record and any unrepresented parties via the Court’s ECF System to their respective email or first-class U.S. mail addresses disclosed on the Notice of Electronic Filing on September 20, 2023.

s/William Barkholz  
WILLIAM BARKHOLZ  
Case Manager